

**REMARKS**

Claims 1-13 and 19-26 are pending in the application. Claims 14-18 are canceled, and claim 7 is amended with this response. Reconsideration of the application in light of the following remarks is respectfully requested.

**I. OBJECTION TO THE SUBMITTED DECLARATION**

The declaration was objected to for failing to meet the requirements of 37 C.F.R. §1.67(a) because the declaration does not identify the provisional application on which priority is claimed under 35 U.S.C. § 119(e). It is respectfully submitted that Rule 67(a) does not require the declaration to list the claim for priority to the provisional application. However, in order to facilitate prosecution of the application, applicants' representative is presently in the process of obtaining signatures for a new declaration that complies with the Examiner's request, and will be submitted as soon as possible.

**II. OBJECTION TO CLAIM 7**

Claim 7 was objected to for an informality. Claim 7 has been amended herein to address the informality, and accordingly, withdrawal of the objection is respectfully requested.

**III. REJECTION OF CLAIMS 1, 3-6, 10, 19-20, 22 AND 26 BASED ON OBVIOUSNESS TYPE DOUBLE PATENTING**

Claims 1, 3-6, 10, 19-20, 22 and 26 were rejected based on the judicially created doctrine of obviousness type double patenting. A terminal disclaimer in compliance with 37 C.F.R. § 1.321(c) is submitted herewith, thereby rendering the above issue moot. Accordingly, withdrawal of the rejection is respectfully requested.

**IV. REJECTION OF CLAIMS 1-2, 6, 9-10, 13, 19-21 AND 24-26 UNDER**  
**35 U.S.C. § 102(e)**

Claims 1-2, 6, 9-10, 13, 19-21 and 24-26 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,078,738 (Garza et al.). Withdrawal of the rejection is respectfully requested for at least the following reasons.

- i. Garza et al. do not teach an analysis system configured to evaluate OPC designs based on a comparison of first and second images as recited in claim 1.*

Claim 1 is directed to a system for evaluating OPC designs, and comprises an analysis system that performs measurements relating to a feature segment and generates a first image corresponding thereto. The analysis system is further configured to determine a second image to facilitate analysis of the first image. In addition, ***the analysis system is configured to evaluate OPC designs based on a comparison of the first and second images***. Garza et al. do not teach or suggest this feature.

As discussed in Columns 3 and 9 of the cited reference, ***Garza et al. is directed toward a mask simulation process***. A simulator receives input information that represents a photomask and parameters associated with a lithography process (see, e.g., Col. 3, Ins. 29-34, Col. 8, In. 67 - Col. 9, In. 3). The simulator generates an output that represents a simulator estimation of a pattern that would be produced by the masking process and mask provided at the simulator input (see, e.g., Col. 3, Ins. 34-38, Col. 9, Ins. 3-6). The simulator output pattern is saved as a first data set (see, e.g., Col. 3, Ins. 40-41, Col. 9, Ins. 6-9). Subsequently, Garza et al. teach generating an actual pattern based on a real mask using the lithography process parameters provided at the simulator input (see, e.g., Col. 3, Ins. 42-45, Col. 9, Ins. 10-14). The actual pattern is then measured and the data is saved as a second data set (see, e.g., Col. 3, Ins. 45-47, Col. 9, Ins. 14-21).

The first data set (simulator output) and the second data set (actual feature data) are then compared and the differences therebetween constitute an error data set (see, e.g., Col. 3, Ins. 47-50, Col. 9, Ins. 24-29). ***The differences are indicative of deficiencies in the simulator model and are used to drive alterations in the simulation model so as to minimize such differences. Therefore the system of Garza et al. does not evaluate OPC designs based on comparisons of images; rather a comparison of images and modifications are made to the simulator model to reduce differences between the images.*** No evaluation of an OPC design (which would comprise the input mask data in Garza et al.'s system) is made in the cited reference. Therefore Garza et al. fail to anticipate the invention of claim 1, along with depending claims 2, 6, 9-10 and 13. Accordingly, withdrawal of the claims is respectfully requested.

***ii. Garza et al. do not teach a means for evaluating OPC designs based on comparisons of first and second images, as recited in claim 19.***

Claim 19 is directed to a system for evaluating OPC designs, and comprises a means for evaluating OPC designs based upon comparisons of the first and second images. As discussed above, Garza et al. do not teach a means for evaluating OPC designs based on the comparison of the images. Instead, ***the simulator model is evaluated based on the comparison and no considerations are made to the mask data.*** Further, since the goal is to optimize the simulator model to most closely approximate the lithography patterning process, one of ordinary skill in the art would not be motivated to evaluate the mask pattern data since that would result in moving multiple variables and make simulation optimization extremely more difficult. Thus, Garza et al. do not anticipate the system of claim 19. Accordingly, withdrawal of the rejection is respectfully requested.

**iii. *The cited art does not teach or suggest a method for evaluating OPC designs comprising evaluating the OPC designs based on comparisons of first and second images, as recited in claim 20.***

Claim 20 is directed to a method for evaluating OPC designs. The method comprises performing measurements relating to a segment of a feature, and determining a first image corresponding to the measured feature segment. The method further comprises determining a second image to facilitate analysis of the second image, and evaluating OPC designs based upon a comparison of the first and second images. As discussed above, Garza et al. do not teach an evaluation of OPC designs based upon a comparison of images as claimed, and therefore does not anticipate the invention of independent claim 20 and depending claims 21 and 25-25. Accordingly, withdrawal of the rejection of the above claims is respectfully requested.

**iv. *Garza et al. do not teach a processing system operable to evaluate OPC designs based on a comparison of first and second images, as recited in claim 26.***

Claim 26 is directed to a CD-SEM system for evaluating OPC designs, and comprises a processing system adapted to perform measurements relating to a feature segment and determine a first image corresponding thereto. The processing system further is configured to determine a second image to facilitate analysis of the first image, and evaluate OPC designs based upon a comparison of the first and second images. The cited reference, as highlighted above, does not teach such a processing system, and thus fails to anticipate the invention of claim 26. Accordingly, withdrawal of the rejection is respectfully requested.

**V. REJECTION OF CLAIMS 3-5, 8, 11-12 AND 22-23 UNDER 35 U.S.C. § 103(a)**

Claims 3-5, 8, 11-12 and 22-23 were rejected under 35 U.S.C. § 103(a) as being obvious over Garza et al. in view of a number of secondary references (U.S. Patent No. 5,962,173 (Leroux et al.), claims 3 and 22, U.S. Patent No. 5,698,346 (Sugawara), claim 4, U.S. Patent No. 6,268,093 (Kenan et al.), claims 5, 7 and 23, U.S. Patent No.

5,723,233 (Garza II), claim 8. Withdrawal of the rejections is respectfully requested for at least the following reasons.

As highlighted above, Garza et al., the primary reference, fails to teach or suggest the features of independent claims 1, 19, 20 and 26, respectively. None of the secondary cited references highlighted above, remedy the deficiencies in Garza et al, and thus the combination of Garza et al. with the secondary references fail to teach the inventions of 3-5, 8, 11-12 and 22-23. Accordingly, withdrawal of the rejection is respectfully requested.

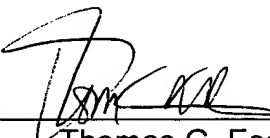
**VI. CONCLUSION**

For at least the above reasons, the claims currently under consideration are believed to be in condition for allowance.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 50-1733, AMDP440USA.

Respectfully submitted,  
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CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450  
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Date: October 20, 2003

Christine Gillroy  
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